

TENTATIVE COURSE OUTLINE

WEEK	TOPICS	ACTIVITIES
1/18	W 1/21: Course Intro, Review: Number Representation, F 1/23: Logic Gates, Truth Tables	Read: 1.1–1.6, 2.1
1/25	M 1/26: Boolean Algebra, W 1/28: Standard Forms, Universal Gates F 1/30: K-Maps, Don't Cares	Read: 2.2–2.4 HW #1 Due
2/1	M 2/2: Prime Implicants, Hazards W 2/4: Multi-Level Optimization, High-Impedance Gates F 2/6:	Read: 2.5–2.10 HW #2 Due DEMO #1 – A GROUP
2/8	M 2/9: Common Combinational Structures, Using Combinational Structures to Implement Logic W 2/11: Implementing Digital Logic (continued) F 2/13: Addition Review,	Read: 3.1–3.9 HW #3 Due DEMO #1 – B GROUP
2/15	M 2/16: Complements, Adder/Subtractor , W 2/18: (Optional) Midterm #1 Review (Q&A) F 2/20: Carry-Look-ahead Adders	Read: 4.1–4.4, “Carry Look-ahead”, HW #4 Due MIDTERM #1 Wednesday, Feb 18 7:15-9:15 pm, 1800 EH
2/22	M 2/23: Specialized Arithmetic Structures W 2/25: D Latches and Flip-Flops, FF Timing F 2/27: Introduction to Sequential Circuits, Counters	Read: 4.5, 5.1–5.3, “D Latches and FFs” , 6.3 DEMO #2 – A GROUP
3/1	M 3/2: Sequential Circuit Analysis and Design W 3/4: Sequential Circuit Timing & Asynchronous Issues F 3/6: FSM Implementation	Read: 5.4 – 5.5, , “Sequential Circuit Timing”, 6.5-6.7 HW #5 Due DEMO #2 – B GROUP
3/8	M 3/9: Other FF Types and FSMs W 3/11: FSMs and Sequential Circuit Design F 3/13:	Read: 5.6 – 5.7 Written HW #6 Due DEMO #3 – A GROUP
3/15	UW-Madison Spring Break	
3/22	M 3/23: W 3/25: FSMs and Sequential Circuit Design F 3/27:	Read: 5.7 DEMO #3 – B GROUP
3/29	M 3/30: Registers, Register Transfers W 4/1: (Optional) Midterm #2 Review (Q&A) F 4/3: Complex FSMs using Registers	Read: 7.1 – 7.3 HW #7 Due MIDTERM #2 , Wednesday, Apr 01 7:15-9:15 pm, 1800 EH
4/5	M 4/6: micro-operations W 4/8: micro-operations on registers F 4/10: multiplexer and bus transfer	Read: 7.5 – 7.8 DEMO #4 – A GROUP
4/12	M 4/13: Datapath vs. Control W 4/15: Designing Control, Micro-programmed control F 4/17: Building Datapaths	Read: 7.10, 7.13 DEMO #4 – B GROUP
4/19	M 4/20: SRAM and DRAM W 4/22: Designing SRAM F 4/24: SRAM Arrays, More SRAM Examples	Read: 8.1–8.4 HW #8 Due DEMO #5 – A GROUP
4/26	M 4/27: Processor Design W 4/29: Circuit Pipelining, Serial Transfers F : 5/1	Read: 9.1-9.8, 7.9 DEMO #5 – B GROUP
5/3	M 5/4: W 5/6: F 5/8: Final Exam Review, course evaluation	HW #9 Due
FINAL EXAM: Friday, May 15, 5:05-7:05 PM (Room 1800EH)		